Notice of Allowability	Application No.	Applicant(s)	
	09/811,824	ANDERSON ET AL.	
	Examiner	Art Unit	
	Chih-Min Kam	1653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *10/7/04*.

2. ☒ The allowed claim(s) is/are *21-25,28-34,59,60,67-74 and 76-82*.

3. ☒ The drawings filed on *28 June 2001* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *20041103* .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

An **Examiner's Amendment** to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Harold Fox on November 8, 2004.

Examiner's Amendments to the Claims:

Please cancel claim 27 and 75.

Claims 21-25, 28, 59, 69, 70, 73, 74 and 76 have been amended as follows:

21. (Currently amended) A composition comprising:

a semiconductor nanocrystal,

a linking group which has a distal end and a proximal end, the distal end being bound to an outer surface of the semiconductor nanocrystal and the proximal end [including] comprising a first charged or ionizable moiety, wherein

the distal end [includes] comprises S, N, P, O, or O=P;

[the proximal end includes] the first charged or ionizable moiety is selected from the group consisting of a hydroxide, an alkoxide, a carboxylate, a sulfonate, a phosphate, a phosphonate[, or] and a quaternary ammonium; and

the distal and proximal ends are connected by a spacer or a bond, and

a fusion protein [including] comprising a second charged or ionizable moiety, wherein the first and second charged or ionizable moieties electrostatically associate the semiconductor nanocrystal with the fusion protein to form an ionic conjugate.

22. (Currently amended) The composition of claim 21, wherein the spacer is selected from [a bond,] a branched or unbranched C2-C100 alkylene, a branched or unbranched C2-C100 alkenylene, a branched or unbranched C2-C100 heteroalkenylene, cycloalkyl, cycloalkenyl, cycloalkynyl, heterocyclic, aryl, and heteroaryl.

23. (Currently amended) The composition of claim 21, wherein the semiconductor

nanocrystal [includes] comprises a first semiconductor material, and wherein the first semiconductor material [being] is a Group II-VI compound.

24. (Currently amended) The composition of claim 21, wherein the semiconductor nanocrystal is further [comprises] bound to a plurality of linking groups each independently [including] comprising a third charged or ionizable moiety.

25. (Currently amended) The composition of claim 24 further comprising a plurality of macromolecules, each of the macromolecules [including] comprising a fourth charged or ionizable moiety, wherein the plurality of macromolecules are associated with the semiconductor nanocrystal via electrostatic interaction with the plurality of semiconductor nanocrystal linking groups.

28. (Currently amended) The composition of claim 21, wherein the second charged or ionizable [group includes] moiety is selected from the group consisting of [an] a hydroxide, an alkoxide, a carboxylate, a sulfonate, a phosphate, a phosphonate[, or] and a quaternary ammonium.

59. (Currently amended) A method of forming an ionic conjugate, comprising:

providing a semiconductor nanocrystal [including] with a linking group having a distal end and a proximal end, wherein the distal end [being] is bound to an outer surface of the semiconductor nanocrystal, and the proximal end [including] comprises a first charged or ionizable moiety, and wherein the distal end [includes] comprises S, N, P, O, or O=P, [the proximal end includes] the first charged or ionizable moiety is selected from the group consisting of a hydroxide, an alkoxide, a carboxylate, a sulfonate, a phosphate, a phosphonate[, or] and a quaternary ammonium, and the distal and proximal ends are connected by a spacer or a bond; and

contacting a fusion protein having a second charged or ionizable moiety with the semiconductor nanocrystal, wherein the first and second charged or ionizable moieties

electrostatically associate the semiconductor nanocrystal with the fusion protein to form an ionic conjugate.

69. (Currently amended) The method of claim 59, wherein the spacer is selected from [a bond,] a branched or unbranched C2-C100 alkylene, a branched or unbranched C2-C100 alkenylene, a branched or unbranched C2-C100 heteroalkenylene, cycloalkyl, cycloalkenyl, cycloalkynyl, heterocyclic, aryl, and heteroaryl.

70. (Currently amended) The method of claim 59, wherein the semiconductor nanocrystal [includes] comprises a first semiconductor material, wherein the first semiconductor material [being] is a Group II-VI compound.

73. (Currently amended) The method of claim 59, wherein the semiconductor nanocrystal is further [comprises] bound to a plurality of linking groups each independently [including] comprising a third charged or ionizable moiety.

74. (Currently amended) The method of claim 73, further comprising a plurality of macromolecules, each of the macromolecules [including] comprising a fourth charged or ionizable moiety, wherein the plurality of macromolecules are associated with the semiconductor nanocrystal via electrostatic interaction with the plurality of linking groups.

76. (Currently amended) The method of claim 59, wherein the second charged or ionizable [group includes] moiety is selected from the group consisting of [an] a hydroxide, an alkoxide, a carboxylate, a sulfonate, a phosphate, a phosphonate[, or] and a quaternary ammonium.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Min Kam whose telephone number is (571) 272-0948. The examiner can normally be reached on 8.00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached at 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chih-Min Kam, Ph. D. CMK
Patent Examiner

CMK
November 8, 2004

JON WEBER
SUPERVISORY PATENT EXAMINER